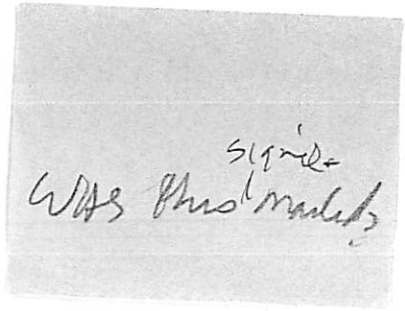


ISSUANCE DATE AND SIGNATURE PAGE

U.S. ENVIRONMENTAL PROTECTION AGENCY
RULE AUTHORIZED UNDERGROUND INJECTION CONTROL PERMIT
CLASS V (5W-19) – Permit Number WA-5W32-0001

In compliance with provisions of the Safe Drinking Water Act (SDWA), as amended, (42 USC 300f-300j-9), and attendant regulations incorporated by the U.S. Environmental Protection Agency (EPA) under Title 40 of the Code of Federal Regulations, QUIL CEDA VILLAGE (affiliated with the TULALIP TRIBES) as PERMITTEE is authorized to inject non-hazardous treated wastewater effluent by infiltration to groundwater, utilizing up to 19 Class V Type 5W-32 wells (community leach fields, lagoons, or other effluent dispersal methods), in accordance with conditions set forth herein. The QUIL CEDA effluent infiltration system is located on Quil Ceda Boulevard between 93rd St. NE and 110th St. NE on tribal land in the town of Tulalip, Snohomish County, Washington State. Injection of hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA), as amended, (42 USC 6901) or radioactive wastes are not authorized under this permit. Injection shall not commence until the permittee has received written authorization from the EPA Director, Region 10 Office of Water, to inject.

All references to Title 40 of the Code of Federal Regulations are to all regulations that are in effect on the date that this permit is issued. Appendices are referenced to the Quil Ceda Village Treated Effluent Infiltration System Underground Injection Control Permit Application dated July 2002 and January 2003.

This permit shall become effective on the day it is signed by the Director, in accordance with 40 CFR 124.15.

This Rule Authorized permit will remain valid for a period of ten (10) years from the effective date of the permit or when the hydraulic capacity for wastewater flows reaches 250,000 gallons per day (limiting factor for the effluent infiltration system), whichever comes earlier. The permittee will notify EPA when flows reach a capacity of 90 % of the authorized permit wastewater flow capacity of 250,000 gal/day, that is 225,000 gal/day, and also notify EPA of the status of the NPDES Discharge Permit application. Flows exceeding 250,000 gal/day will require discharging effluent to surface water under an NPDES permit to be obtained by the permittee.

Signed this --- day of --------, 2003.

/s/
Director – Office of Water
U.S. EPA – Region 10

PART I
GENERAL PERMIT CONDITIONS

A. EFFECT OF PERMIT

The permittee is allowed to engage in underground injection in accordance with the conditions of this permit. The underground injection activity, otherwise authorized by this permit, shall not allow the movement of fluid containing any contaminant into an underground source of drinking water (USDW), if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR 141 or may otherwise adversely affect the health of persons or the environment. Compliance with this permit during its term constitutes compliance for purposes of enforcement with Part C of the Safe Drinking Water Act (SDWA). Such compliance does not constitute a defense to any action brought under Section 1431 of the SDWA, or any other law governing protection of public health or the environment from imminent and substantial endangerment to human health and the environment.

This permit may be modified, revoked and reissued, or terminated during its term for cause. Issuance of this permit does not convey property rights or mineral rights of any sort or any exclusive privilege, nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. This permit does not authorize any above ground generating, handling, storage, or treatment facilities.

This permit is based on the permit application and material submitted in July 2002 and January 2003.

B. PERMIT ACTIONS

1. Modification, Re-issuance or Termination

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 144.39 and 144.40. Also, the permit can undergo minor modification for cause as specified in 40 CFR 144.41. The filing of a request for a permit modification, revocation and re-issuance, or termination, or the notification of planned changes, or anticipated non-compliance on the part of the permittee does not stay the applicability or enforceability of any permit condition.

modification, or for denial of a permit renewal application, except that the permittee need not comply with the provisions of this permit to the extent and for the duration such non-compliance is authorized in an emergency permit under 40 CFR 144.34.

2. Penalties for Violations of Permit Conditions

Any person who violates a permit condition is subject to a civil penalty not to exceed $ 27,500 per day of such violation. Any person who willfully or negligently violates permit conditions is subject to a fine of not more than $ 27,500 per day of violation and/or being imprisoned for not more than three (3) years.

3. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. To be timely, a complete application for anew permit must be received at least 180 days before this permit expires.

4. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from non-compliance with this permit.

6. Proper Operation and Maintenance

The permittee, shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this permit.

2. Transfer of Permits

This permit is not transferable to any person, except, after notice to the Director on APPLICATION TO TRANSFER PERMIT (EPA Form 7520-7, Appendix C) and in accordance with 40 CFR 144.38. The Director may require modification or revocation and re-issuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the SDWA.

C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

D. CONFIDENTIALITY

In accordance with 40 CFR Part 2, any information submitted to EPA pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed in 40 CFR 2.203 and on the application form or instructions, or, in the case of other submissions, by stamping the words "confidential" or "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2 (Public Information).

Claims of confidentiality for the following information will be denied:

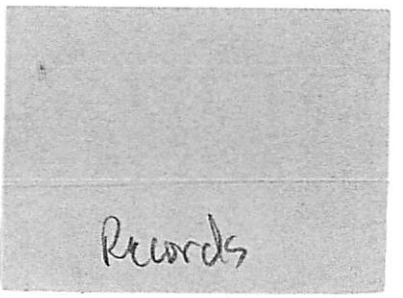
1. The name and address of the permittee.

2. Information, which deals with the existence, absence, or level of contaminants in drinking water.

E. GENERAL DUTIES AND REQUIREMENTS

1. Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit non-compliance constitutes a violation of the SDWA and is grounds for enforcement action, permit termination, revocation and re-issuance,


Records

7. Duty to Provide Information

The permittee shall provide to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and re-issuing, or terminating this permit. The permittee shall also provide to the Director, upon request, copies of records required to be kept by this permit.

8. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of the permit;

b. Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;

c. Inspect at reasonable times, for the purposes of assuring compliance or as otherwise authorized by SDWA, any contaminants or parameters at any location.

9. Records

a. The permittee shall retain records and all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete this permit application for a period of at least three (3) years from the date of the sample, measurement, report or application. These periods may be extended by request of the Director at any time.

b. The permittee shall retain records concerning the nature and composition of all injected fluids until three years after the completion of in-place abandonment of the Class V well facility.

At the conclusion of the retention period, if the Director so requests, the permittee shall deliver the records to the Director. The permittee shall continue to retain the records after the three (3) year retention period unless he delivers the records to the Director or obtains written approval from the Director to discard the records.

c. Records of monitoring information shall include:

(1) The date, exact place and time of sampling or measurements;

(2) The name(s) of the individual(s) who performed the sampling or measurements;

(3) The date(s) analyses were performed;

(4) The name(s) of the individual(s) who performed the analyses;

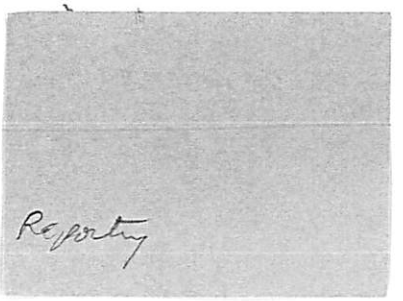
(5) The analytical techniques or methods used; and

(6) The results of such analyses.

d. Monitoring of the nature of the injected fluids (treated effluent) shall comply with applicable analytical methods cited and described in Table I of 40 CFR 136.3 or in Appendix III of 40 CFR Part 261 or in certain circumstances by other methods that have been approved by the Administrator.

e. All environmental measurements required by the permit, including, but not limited to measurements of flow rate, chemical analyses etc. shall be done in accordance with EPA's Quality Assurance Program Plan (QAPP) and Quality Management Plan (QMP).

f. As part of the Completion Report, the operator must submit a Sampling and Analysis Plan (SAP) that describes the procedures to be carried out to obtain detailed chemical and physical analyses of representative samples of the wastewater treated effluent injectate including the quality assurance procedures used including the following:


Reporting

(1) The parameters for which the treated effluent injectate will be analyzed and the rationale for the selection of these parameters;

(2) The test methods that will be used to test for these parameters; and

(3) The sampling method that will be used to obtain a representative sample of the waste to be analyzed.

Where applicable, the Sampling and Analysis Plan (SAP) from the permit application may be incorporated by reference.

g. For waste streams piped more or less continuously from the wastewater treatment plant (WWTP) to the Class 5 injection facility, the permitttee shall provide for continuous, recorded measurement of the discharge volume and shall provide such sampling and testing as may be necessary to provide a description of the nature and composition of all injected fluids, and to support any statements that the waste is exempt from regulation as hazardous waste as defined by 40 CFR 261.4

h. It is the responsibility of the permittee to ensure that no other wastes (trucked or piped) are either knowingly or unknowingly disposed or injected at the Class V injection facility. The only authorized waste fluids authorized to be injected at the Class V injection facility is the treated effluent from the WWTP at Quil Ceda.

i. Dates of most recent calibration and maintenance of gauges and meters used for monitoring required by this permit shall be noted on the gauge or meter.

10. Reporting Requirements

The permittee shall give notice to the Director, as soon as possible, of any planned physical alterations or additions to the permitted facility or changes in type of injected fluid.

11. Anticipated Non-Compliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in non-compliance with permit requirements.

12. Twenty-Four Hour Reporting

a. The permittee shall report to the Director any non-compliance, which may endanger human health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which must be reported orally within 24 hours:

(1) Any monitoring or other information, which indicates that any contaminant may cause an endangerment to an USDW.

(2) Any non-compliance with a permit condition or malfunction of the injection system.

b. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the non-compliance and its cause, including exact date and times, and if the non-compliance has not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance.

13. Other Non-Compliance

The permittee shall report all other instances of non-compliance not otherwise reported at the time monitoring reports are submitted. The reports shall contain the information listed in Permit Condition E.12.b.

14. Reporting Corrections

When the permittee becomes aware that he failed to submit any relevant facts in the permit application or submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit such facts or information.

15. Signatory Requirements

(a) All permit applications, reports required by this permit and other information requested by the Director shall be signed by a principal executive officer of at least the level of vice-president, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a principal executive of at least the level of vice-president;

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of Plant Manager, operator of the well facility, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position;

(3) The written authorization is submitted to the Director.

(b) If an authorization under paragraph (a) of this section is no longer accurate, because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (a) of this section must be submitted to the Director prior to or together with any reports, information or applications to be signed by an authorized representative.

(c) Any person signing a document under paragraph (a) of this section shall make the following certification:

" I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

F. PLUGGING AND ABANDONMENT

1. Notice of Plugging and Abandonment

The permittee shall notify the Director no later than 45 days before the effluent infiltration Class V wells are shut-down and abandoned in-place. Since all effluent infiltration will occur subsurface in shallow trenches, and there will be no deep wells or vertical features to provide a migration pathway for the treated effluent, no specific plugging procedures have been proposed following shut-down of the effluent infiltration system.

2. Abandonment Report

The permittee shall abandon the effluent infiltration Class 5 well facility as provided in the PLUGGING AND ABANDONMENT PLAN (Appendix C), which is hereby incorporated as a part of this permit. Within 60 days after abandoning any Class V well and/or well facility the permittee shall submit a report to the Director in accordance with 40 CFR 144.51(p). EPA reserves the right to change the manner in which the well and/or well facility will be abandoned in-place if the Class V well facility is not proven to be consistent with EPA requirements for construction and well integrity, with resulting potential to endanger an USDW. The Director may ask the permittee to update the in-place abandonment costs periodically.

3. Cessation Limitation

After a cessation of operation of two (2) years, the permittee shall abandon in-place the effluent infiltration Class 5 well facility in accordance with the P&A PLAN (Appendix B) unless the permittee:

a. Provides notice to the Director;

b. Demonstrates that the Class V well facility will be used in the future; or

c. Describes actions or procedures, satisfactory to the Director that the permittee will take to ensure that the Class 5 well(s) will not endanger an USDW during the period of temporary abandonment. These actions and procedures shall include compliance with the technical requirements applicable to active injection wells unless waived by the Director.

4. Cost Estimate for Closure and Abandonment

a. The permittee must submit to the Director financial assurance and a cost estimate for closure and in-place abandonment of the Class V well facility by April 30 of each year. The estimate shall be made in accordance with 40 CFR 144.62.

b. The permittee must keep at the facility during the operating life of the facility the latest closure and abandonment cost estimate.

c. When the cost estimate changes, the documentation submitted per 40 CFR 144.63(f) shall be amended as well to ensure that appropriate financial assurance for closure and abandonment is maintained continuously.

d. The permittee must notify the Director by registered mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 business days after the commencement of the proceeding.

G. FINANCIAL RESPONSIBILITY

The permittee shall maintain continuous compliance with the requirement to maintain financial responsibility and resources to close and abandon the underground injection facility. If the financial test and corporate guarantee provided under 40 CFR 144.63(f) should change, the permittee shall immediately notify the Director. The permittee shall not substitute an alternative demonstration of financial responsibility for that which the Director has approved, unless it has previously submitted evidence of that alternative demonstration to the Director and the Director notifies him that the alternative demonstration of financial responsibility is acceptable.

PART II
CLASS V WELL FACILITY SPECIFIC CONDITIONS

A. CONSTRUCTION

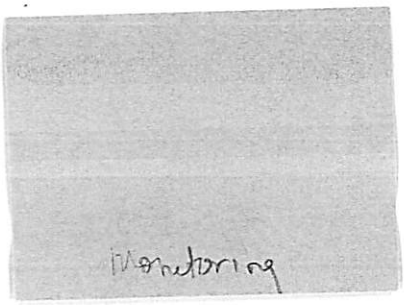
1. The permittee will follow the proposed effluent infiltration system design as presented in Section 4.6 of the Permit Application (July 2002). The proposed system will be designed as a series of 19 identical sections, each 250 feet long and 5 feet wide. Each section will contain 10 individual discharge points located 25 feet apart. Flow to each section is controlled via a vault that contains a float valve, totalizing flow valve, and a globe valve for fine flow rate adjustment. Each discharge point will also have a valve to provide for flow rate control.

   The trench that comprises the infiltration system will be excavated to a depth of 4 feet to remove surficial topsoil and low-permeability silty sand, and then backfilled with a higher permeable material coarse sand to provide for rapid flow of injected water to all portions of the infiltration basins.

B. CORRECTIVE ACTION

The applicant has identified no drinking water wells within ¼ mile to the north, west, or south of the system. Approximately 14 individual domestic drinking water wells and one Group B public water system with 10 connections were identified on the east side of I-5, at least 400 feet from the proposed system. It is expected that residences currently obtaining drinking water from wells will soon connect to the City of Marysville water supply system.

If the applicant later discovers fluid movement into and impacts on drinking water wells within the Area of Review (AOR) of ¼ mile, as described in 40 CFR 144.55, then the applicant shall inform the EPA upon such discovery and provide a corrective action plan for EPA review and approval. The EPA Director may require that all injection activities cease until the problem can be diagnosed and corrected.


Monitoring

C. WELL OPERATION

1. Prior to Commencing Injection

Injection operations (effluent infiltration) pursuant to this permit may not commence until:

a. Construction is complete and the permittee has submitted two copies of COMPLETION FORM FOR INJECTION WELLS (EPA FORM 7520-9, Appendix C); and

(1) The director has inspected or otherwise reviewed the new injection well facility and finds it in compliance with the conditions of the permit; or

(2) The permittee has not received notice from the Director of intent to inspect or otherwise review the new injection well facility within thirteen (13) days of receiving the COMPLETION REPORT in which case prior inspection or review is waived and the permittee may commence injection.

b. The operator has conducted a preliminary test to determine the infiltration rate at the site to confirm the long-term maximum allowable infiltration rate of 11 inches per hour and submitted a report to the EPA with a summary of the results.

2. During Injection.

Trained and qualified operators shall man the injection facility during injection. The WWTP operators can also be utilized for this activity provided they have adequate training and experience.

3. Injection Fluid Limitation

No substance other than those non-hazardous wastewater treated effluent noted in the permit application shall be injected. Neither hazardous waste as defined in 40 CFR 261 nor radioactive waste shall be injected for disposal in the Class V well(s).

D. MONITORING

1. Effluent Quality Monitoring Requirements

Although it is expected that the treated effluent injectate from the Membrane Reactor WWTP will meet federal drinking water standards, the permittee will monitor the effluent to document compliance with federal drinking water quality standards. Table 5-1 from the July 2002 permit application (Appendix A) summarizes the effluent monitoring parameters and frequencies for discharge to groundwater.

2. Groundwater Level Monitoring

Nineteen groundwater monitoring wells will be installed along the length of the effluent infiltration system to aid in monitoring groundwater levels and mounding due to infiltration of treated effluent. These wells will be monitored weekly.

Seven additional wells (B-1 to B-6, and P-3) located around the perimeter of the Village will aid in evaluating regional/seasonal variations in groundwater levels. Groundwater levels in these wells will be monitored monthly.

Samples and measurements collected for the purpose of monitoring shall be representative of the monitored activity.

3. Groundwater Quality Monitoring

Because effluent is expected to meet federal drinking water quality standards, no routine groundwater quality monitoring will be required. However, if these standards are not met, the Director may require groundwater quality monitoring as a contingency measure (See Contingency Plans).

Plans submitted in the permit application (including QMPs – Quality Management Plans, QAPs – Quality Assurance Plans, and SAPs – Sampling and Analysis Plans) will be followed to ensure that: (1) environmental programs and decisions are supported by data of the type and quality needed and expected for their intended use, and (2) the decisions involving the design, construction and operation of environmental technology are supported by appropriate quality assured engineering standards and practices.

E. REPORTING REQUIREMENTS

1. Monthly, Quarterly, Semi-Annual and Annual Reports

The permittee shall submit monthly, quarterly, semi-annual and annual reports to the Director containing the following information:

a. Instrument parameters – Dissolved Oxygen, pH, specific conductance and turbidity.

b. Conventional parameters, metals, volatile organic compounds, pesticides, PCBs, TPH etc.

The reporting frequency for the various parameters will be consistent with the sampling frequency as submitted in the July 2002 and January 2003 permit application and related material submitted to EPA.

c. Monthly average, maximum and minimum values for injection rate and volume shall be reported on INJECTION WELL MONITORING REPORT (EPA Form 7520-8, Appendix C).

F. CONTINGENCY PLANS

This section addresses contingency measures applicable to potential problems that might affect the effluent infiltration system. These potential problems include:

- Treatment plant effluent quality does not meet federal drinking water quality standards.
- Sanitary flows exceed effluent infiltration capacity.
- NPDES discharge permit to surface water cannot be obtained.

The permittee has addressed contingency plans for each of the above scenarios in the July 2002 permit application and these are presented in more detail below:

1. Effluent Quality Exceeding Federal Drinking Water Standards

Effluent quality is a function of a number of several different parameters, including:

- Drinking water supply quality.
- Sanitary discharge water quality.
- Treatment plant removal efficiencies.

In the event monitoring indicates an exceedance of federal drinking water standards, the permittee will notify EPA within 24 hours of the exceedance, and will initiate an investigation to determine the cause of the exceedance. EPA may require the injection facility to be shut down depending on the impact on human health and/or groundwater resources. Possible investigation and corrective action steps that EPA may require the permittee to perform could include:

- Collecting and analyzing samples of the drinking water supply.
- Collecting and analyzing samples of the effluent from specific sources of concern that discharge to the Village sewer system, and requiring termination or pre-treatment of excessive discharges.
- Evaluating and improving treatment plant operations, maintenance, and/or equipment.
- Installing and monitoring new off-site groundwater monitoring wells and/or monitoring existing off-site drinking water wells to evaluate groundwater quality down-gradient of the effluent infiltration system.
- Providing alternative drinking water supplies to persons relying on potentially affected wells for drinking water.

Since the City of Marysville provides the Village's water supply, water supply issues relating to water quality may be beyond the Village's control. In such an event, the permittee will have to submit to EPA a request for variance from meeting specific federal drinking water standards for substances that exceed the standards in the water supply. EPA reserves the right to deny this request for variance if there is a severe endangerment to human health or the environment.

In the event of difficulties with system start-up or wastewater plant malfunction, wastewater flows up to 50,000 gallons/day can be sent to the City of Marysville POTW (as per agreement between the Village and the City of Marysville). An alternative option is to send wastewater flows (in the event of severe problems with the new WWTP) to the Tribes existing sewage treatment plant located on the west side of the reservation which has an NPDES approved discharge permit, discharging to Puget Sound. However, the construction of a seven (7) mile overland pipeline may require a time period of 6-12 months to construct.

2. Insufficient Filtration Capacity

Insufficient infiltration capacity could occur for the following reasons:

- Higher than expected wastewater flows due to rapid development of the Village, higher than expected flows from specific businesses, and/or excessive interception and infiltration of groundwater into the sewer system.

- Lower than expected effluent infiltration capacity due to infiltration trench plugging and/or groundwater mounding.

The permittee (Village) will monitor and evaluate sanitary flows to the WWTP, and control the Village development, so that flows increase in an incremental and controlled manner and do not exceed allowed rates. The permittee will attempt to identify and remedy specific sources of excessive groundwater interception and infiltration.

If trench infiltration rates decrease to unacceptable levels, the permittee shall take corrective actions as outlined in the Permit application including removal of accumulated biological material and solids removal. Excessive groundwater mounding and elevated regional groundwater levels from routine groundwater level monitoring can also detect low infiltration rates. If additional infiltration capacity is needed, the permittee will have to submit a request to EPA for constructing additional infiltration basins.

3. NPDES Discharge Permit to Surface Water Cannot be Obtained

If the Permittee does not obtain an NPDES Discharge Permit in a timely manner, then the permittee has two options:

- Continue discharging treated effluent to the Class V infiltration system until the permitted 250,000 gallons/day capacity is reached,

- Discharge treated effluent through the approximately 7 mile overland pipeline to the Tribes' existing sewage treatment plant, with subsequent discharge of effluent to Puget Sound.

G. APPENDICES

APPENDIX A – Effluent Monitoring Parameters and Frequency (The source of information is from figure 5.1 of the Permittee's July 2002 Permit Application).

APPENDIX B – Plugging and Abandonment Plan (The source of this information is from Section 6.0 of the Permittee's July 2002 Permit Application)

APPENDIX C – EPA Forms

APPENDIX A

Proposed Effluent Monitoring Parameters and Frequency
(Table 5-1 of July 2002 Permit Application)

Parameter or Parameter Group	Sampling Frequency During Discharge to Effluent Infiltration System
Instrument Parameters	
Dissolved oxygen	weekly
pH	weekly
Specific conductance	weekly
Turbidity	Continuous
Conventional Parameters	
Alkalinity	Monthly for first year of operation
Ammonia	Weekly
BOD5	Weekly
Coliform, Fecal	Weekly
Coliforms, Total	First week, at 6 months, at 12 months
E. coli	First week, at 6 months, at 12 months
Cyanide	First week, at 6 months, at 12 months
Hardness	Monthly
Nitrate	Weekly
Nitrite	Weekly
Phosphorus	First week, at 6 months, at 12 months
TKN	Weekly
TSS	Monthly for first year of operation, Use turbidity as surrogate thereafter
Metals	
Antimony	Monthly for first three months[b]
Arsenic	Monthly for first three months[b]
Barium	Monthly for first three months[b]
Beryllium	Monthly for first three months[b]
Cadmium	Monthly for first three months[b]
Chromium	Monthly for first three months[b]
Copper	Monthly for first three months[b]
Lead	Monthly for first three months[b]
Mercury	Monthly for first three months[b]
Nickel	Monthly for first three months[b]
Selenium	Monthly for first three months[b]
Silver	Monthly for first three months[b]
Thallium	Monthly for first three months[b]
Zinc	Monthly for first three months[b]
Volatile Organic Compounds[c]	First week, then every six months[b]
Pesticides[c]	First week, then every six months[b]
PCBs[c]	First week, then every six months[b]
TPH[c]	First week, then every six months[b]

Effluent Monitoring Parameters and Frequency (Continued)
(Table 5-1 Continued)

[a] Turbidity is continuously monitored as WWTP operational parameter to detect failure or deterioration of membrane treatment system.

[b] Monthly monitoring will continue for any compound detected at greater than 80 percent of its effluent limit. Otherwise, monitoring frequency will be reduced to annually.

[c] See list in Table 2-2 of the Quality Assurance Project Plan, Appendix J-2 (QAPP – Parametrix, Quil Ceda Permit Application, July 2002),

APPENDIX B

PLUGGING AND ABANDONMENT PLAN
(Section 6.0 of July 2002 Permit Application)

The effluent infiltration system will be shut down and abandoned in-place. No specific plugging measures are proposed to be implemented following shutdown of the effluent infiltration system, because all effluent infiltration will occur subsurface in shallow trenches. The effluent infiltration system will have no deep wells or other vertical features that would provide a migration pathway for contaminated water into the aquifer.

All accumulations of solids and/or biological material will be located approximately three (3) or more feet below ground surface, thus preventing any contact with people or wildlife. The wastewater effluent will be disinfected and will meet federal drinking water standards, making the accumulated material non-hazardous. Future excavation work that exposes these soils will require no special soil management procedures or institutional controls.

The surface of effluent infiltration trenches will be finished in decorative fashion with landscaping rock. This material will be retained in place unless future landscaping changes require it to be removed and replaced with topsoil.